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The financial and economic challenges of housing provision for an ageing society

Ruddock, L and Ruddock, S

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Review

The financial and economic challenges of housing provision for an ageing society

Introduction

By 2050, the world is projected to have over 2 billion older people, accounting for 14 per cent of the total global population and it is predicted, that by 2022, people aged 65 and older will outnumber children for the first time in history (United Nations, 2013). Population ageing is having an increasing impact on society and the economy and is particularly creating myriad challenges for the construction and property sectors. Of major concern to these sectors are the economic and financial impacts of an ageing population. These include the need to determine optimal pathways and financial models for improving and adapting the built environment, in order to meet the needs of older adults in the community. This requirement embraces all stakeholders, including those associated with financial, investment, supply, demand and ownership aspects.

There are exacting challenges for the construction industry and housing providers, which among other things, will represent new demand but equally, new market opportunities. In addition to the requirement for specialist housing, there is also a potentially growing market for spending on home adaptations, maintenance and improvements. Urban developments, especially, need to be planned for the longer term such that they will provide secure, healthy and stimulating environments. All of these new development and refurbishment aspects need to become more 'age-friendly', while remaining economically viable and financially controllable.

The implications of an ageing society for the economies of developed countries are well-documented in economics literature (see Bloom et al, 2010) and by policy makers. Their consumer spending power and asset holdings mean that older people have more market power than ever before (Meiners, 2014) and the economics of ageing (focusing on the 'silver economy') is a developing concept. In the European Union, for instance, the embracing of the 'Silver Economy' (Eatock, 2015) views the opportunities presented by the ageing society and its impact on policies concerned with the built environment in the context of providing opportunity to embrace new technologies, such as smart homes, and use them to lower costs, while improving lives and bolstering the economy. Age-specific products will benefit from the demographic development and spending will increase in that area.

An ageing population is a major issue in terms of its social impact, its consequences for the general economy and its consequences for the construction and property industries. The paper assesses the economic opportunities in the housing market and considers, on the demand side, how the market is changing and on the supply side, what is being asked of industry in order to meet this demand and what opportunities will arise for the sector. In particular, the focus is on the challenges that will have to be faced by the various stakeholders and on the resolution of these challenges.

The changing demographic landscape of the UK

There is a shifting age profile of the population of the UK, in which the number of older people, particularly in the oldest age group, is growing at a faster rate than other groups. The Office for National Statistics (ONS, 2015a) predicts that the number of people aged 65-79 will rise by 42% from 6.5 million people in 2012 to 9.3 million by 2035 and the number aged 80 and over will nearly double over the same period, from 2.6 million to 4.9 million. Figure 1

shows the European Commission's (2015) projected trend for the proportion of the UK population in the 65+ years and 80+ years categories up to 2060.

(Insert Figure 1 here)

Figure 1 The elderly as a percentage of the UK population

Source: European Commission (2015)

This raises key challenges in respect of housing. First, with regard to the number of houses, the UK already has an inadequate supply of dwellings and there has been a fall in housing starts and completions since the most recent economic recession. Second, is consideration of the type of housing that is being built and whether it will meet the needs of the changing demography. The necessary changes in house provision are not going to happen overnight, and there is a more immediate challenge of how to help current older people live comfortable lives in appropriate housing as well as meeting the financial costs of care and support in later life.

The Department for Communities and Local Government (DCLG) provides household projections for the number of households by age type in England (DCLG, 2015a). The number of households headed by persons aged 65 and over is projected to increase by 162 000 per year between 2012-37 with those in the aged 85 and over category to increase by 57 000 per year and, as shown in Table 1, the older age groups are by far the fastest growing sectors of the population.

(Insert Table 1 here)

Table 1 Household projections by age of head of household (thousands)

(Source: DCLG, 2015a)

According to the English Housing Survey (DCLG, 2015b), in 2014 almost 90% of owners of pension age owned their property outright but there are marked differences between tenure groups by age. Most house buyers take out a mortgage and do not own their home outright until later in life but, as Figure 2 illustrates, there are now more households owning their property outright than there are still paying a mortgage. Significantly, 85% of outright owners were aged 55 or more.

(Insert Figure 2 here)

Figure 2 Trends in Tenure

Source: English Housing Survey (DCLGb, 2015)

Impact on the national and local economies

The strength of the silver economy is shown by the fact that older householders spend £121 billion each year and are major consumers of goods and services, hence their importance to the economy (ONS, 2015b). Older people have become a major force in the housing market and the high levels of home ownership amongst older people provide significant market

potential. For the building industry this means that there are substantial new market opportunities both for specialist housing and also for home adaptations, maintenance and improvements. This also links to a potential market growth and increased demand for services provided by small and medium building firms, who carry out home repairs, decoration and maintenance. As well as the economic impact of increased home moves by older households, for those who 'stay put' product innovation, good design, and targeted retailing and installation of home adaptations, equipment and stylish age friendly products all have considerable economic growth potential. These economic benefits also feed through the housing chain and affect the whole housing market. However, recent housing market stimulus packages, such as FirstBuy and Help to Buy (Gov.UK, 2016), have primarily focussed on the first time buyer, often linked to the building of homes for this sector or for the family market. The majority of government backed initiatives have neglected the potential economic benefits of stimulating the growing seniors markets. Society needs to plan for and deliver housing of the right types, sizes and tenures to meet the changing housing and health needs of the population, particularly older people.

The long-term benefits of low level housing support offered by retirement and sheltered housing is a key factor for many older people. Well-located retirement housing coupled with the purchasing power and spending patterns of older people means that they have a significant impact on local economies as such factors as integrated public transport, accessible local shops and services, which are 'age friendly', should encourage older people to remain economically active and spend locally. One study has estimated that extra care housing can reduce the costs to other services by £550 per resident and that an average scheme of forty apartments brought investment of around £5 million into older people's housing and other services, providing fifty jobs for the duration of construction and employment of full and part time staff in a typical extra care scheme (Housing LIN, 2013).

Market effects for new build and adaptation

Downsizing and Last time buyers (LTBs)

The low-rate of house building in the UK over the last decade has meant a general lack of housing provision across all sectors. Concern about the problems faced by the younger generation of first time buyers has dominated housing policy and the fact less than 2% of the housing built in Britain over the period 2010-15 was specifically for the seniors market has not received the same amount of attention. Helping elderly people to downsize would also be one of the best ways to free up the supply of housing for younger generations. There is a significant market for well-designed, attractive new housing which would appeal to the 'young older' section of the population interested in downsizing or relocating. An estimated 650 000 people reach the age of 65 years annually (ONS, 2015b). In addition to the demand for retirement housing and supported housing options such as extra care, building a wider variety of houses and flats which are better designed for older people would increase choice for those who wish to move, including those who wish to downsize, and thereby boost local housing markets with a range of resulting economic benefits.

LTBs constitute a potentially large market for purpose-built smaller housing (for which low-cost modular construction could be a feasible option) and many are stuck in oversized, energy-inefficient houses because suitable local properties do not exist. The Government's HAPPI (Housing our Ageing Population) reports (Home and Communities Agency, 2009 and 2012) stressed the value to society of creating quality retirement housing with the effect of releasing thousands of homes for the younger family market and emphasised that a shift in

the attitude of builders to design homes for people with a desire to downsize is needed. A report by the Centre for Economics and Business Research (CEBR, 2014) on the LTB market estimated that, by 2020, the number of potential LTBs living in three bedroom properties would be almost three million and the results of a survey in this report found that almost one third of older homeowners (aged 55 plus) had considered downsizing within the previous five years but only 7% actually did. The main reasons for not downsizing were, the stress associated with moving, not wanting to give up the family home and the high level of transaction costs such as stamp duty on sales of homes. Additionally, in the social rented sector, many British renters have lived in council and social houses for long periods of time at subsidised rents with long waiting lists for new admissions and the disincentives to move home for these people may be quite high. Consequently, residential mobility amongst older households in the UK is relatively low compared to other developed countries with similar ageing population issues such as the USA (Banks et al, 2012).

Adaptation and building lifetime sustainable homes

As well as too few new homes being built, those that are, are often not accessible or adaptable for old age. Older people need to be able to move to properties suitable to their changing needs if they wish to do so. To make most housing age-friendly, additional costs would be required, while the economic benefits are mainly in the form of savings of a variety of costs e.g. the difference between the costs of adapting buildings to meet mobility and accessibility needs and the saving in care costs that would otherwise be required for an ageing household. In the 1990s, the concept of Lifetime Homes was developed and promoted by the Joseph Rowntree Foundation and was based on the impact of an ageing society on design standards. It was not just concerned with technical factors but also cost considerations. A cost benefit analysis undertaken for the Foundation (Cobbold, 1997) assessed the major benefits of building to Lifetime Home standards in terms of the cost savings from delaying the need for older people to move into residential care, the cost of which is substantially higher than home-based care. The analysis found substantial net benefits. The extra cost of building to Lifetime Homes standards has been updated several times over recent years and Roys (2012) pointed out that various studies have put the cost at significantly different levels ranging up to £1,615, while the DCLG (2012) reported that cost levels for the lifetime home have been estimated from £760 to £2,300 per dwelling. Nevertheless, soaring levels of residential care costs over the last decade have increased still further the potential savings from ensuring that newly constructed homes comply with lifetime home design standards. Investment in aids and adaptations has considerable economic benefits with adaptations a key component in reducing hospital admissions, allowing the delivery of care and support in the home and promoting independence. Developments in assistive technology (AT) in the home have considerable potential to improve support at home for older people and reduce care and health costs (although this will depend on the type of AT and how it is implemented). AT can range from the very basic (such as grab rails and alarms) to more sophisticated telecare and telemedicine systems at the Smart Homes end of the spectrum. The case for smart homes relies on economic scenarios demonstrating benefits through savings in institutional care (see Le et al, 2012). In order to expand the self-pay market, older people need impartial information about what AT is available and how it can help them. Given the cost benefits, it makes sense for basic AT to be made freely available to low income groups, but with easier ways of choosing, buying and installing it for those who can afford to pay. Enabling UK designers and manufacturers of innovative AT to promote and export their products would also benefit the

economy. Accessibility to smart homes for older people is determined by their financial ability to afford the cost of the technology and innovation features can be very costly for older users due to the costs involved in initialising smart home devices. The costs of purchasing, implementing and maintaining smart devices, such as wireless cameras, light sensors and automated systems can be high. Also, there is little point in building a smart home, which is beyond the reach of potential users and so government agencies need to collaborate in implementing smart homes for older people to ensure that there is not a divide between those who can and those who cannot afford such technology. Incentives are needed for private investment in AT in low rent housing. The ability to provide personal care services through smart homes can be driven either through the supply side (the building and technology sectors) or through the demand side (the end users of the housing). Ultimately, cost savings in the area of care and nursing need to be demonstrated, to show that the hardware and support costs are less than the savings and the benefits of allowing people to remain independent. The Government should support the development of housing adaptation, both by ensuring adequate public funding and by encouraging the growth of a secure and easy-to-understand equity release market that can unlock funds to pay for housing adaptations.

Funding housing provision for an ageing population

A fundamental issue for funding housing provision for ageing households is one of whether individuals are accumulating enough assets to fund longer retirements but within that overarching issue are a number of other questions relating to the way in which resources are accumulated prior to retirement and the degree to which they are drawn on after retirement (potentially from housing wealth). The baby-boomer generation, born in the decade after World War Two, is a generation, for which house purchase in the 1970s and 80s with a mortgage was a realisable ambition. Consequently, a high proportion of householders from this generation (now of pensionable age) now own their house outright. As can be seen in Figure 3, the number of households in this category has grown considerably and now over 70% of households in England in this age group are in this position.

(Insert Figure 3 here)

Figure 3 Tenure (000 households) of age group over 64 years of age

(Source: English Housing Survey, 2015)

As far back as the early 1990s, economists in the United States were undertaking research into the effects of real capital gains by home owners from house value appreciation as values had steadily risen over the previous decade. A study of consumer behaviour in the context of house price appreciation in the 1980s (Engelhardt, 1996) found that a house was commonly the major capital asset for most households and rising property values were used as savings accounts to fund future spending during retirement. A comparable period of house price inflation in the UK has occurred over the last couple of decades. Figure 4 illustrates the growth in UK house prices since 1993 indicating the rising price of houses and their value as appreciating assets.

(Insert Figure 4 here)

Figure 4 House Price Index 1993-2015

Source: ONS (2015c)

Many older people have seen the value of their homes increase considerably, making large windfall gains from their home ownership. The Dilnot Commission report (2011) considered that it is reasonable to expect those who have benefited in this way to support their own longer lives. With an estimated £250 billion of equity in older people's housing (The Smith Institute, 2012), this is increasingly seen by policy makers as a potential solution to a range of social issues, from meeting the cost of later life care, topping up pensions and supporting younger generations.

However, the issue of home equity use as a potential source of asset realisation is not a straightforward one. People need to be able to use their assets to help pay for the cost of their social care, to release money to adapt their homes and to support their incomes. Fungibility of housing wealth is important, with many older people having low savings and relying on house price appreciation. A house is by far the single largest asset that most home owners possess but households must be able to spend their realisable capital gains. Home equity, though, is very unevenly spread geographically. There is great diversity of economic circumstances amongst older people, including homeowners across the UK with a high proportion of housing equity concentrated in London and the South East of England, where house values are considerably higher compared to similar properties in other regions of the UK.

The release of housing equity can be accomplished through the use of financial vehicles to permit equity release such as reverse mortgages or through the sale of their homes. Some schemes exist, but are little used. There may be high transaction costs involved in such actions, both monetary but also psychological. A bequest motive or altruism toward future generations may be strong, as older householders experiencing real housing capital gains might wish to pass the gains down to the younger generation, who are facing difficulty in being able to afford to make the first steps onto the property ownership ladder. Cocco and Lopes (2015) studied the role of housing wealth for the financing of retirement consumption, especially concerned with the design of financial products that allow households to tap into their home equity. They found that there appears a reluctance to use such equity to purchase a low value property or to discontinue home ownership due to a precautionary saving motive (due to uncertainty of life span and medical reasons) (De Nardi and Jones, 2010) or as a hedge against future house price fluctuations (Sinai and Souleles, 2005).

Equity release schemes

The vast majority of poor quality housing in England is owned by people aged 50 years or above. For example, 12% of housing stock that fails to meet thermal standards and 10% that fails to meet repair standards is owned by people aged 65-79. So, while more older people own their homes than rent, this also means that more older people live in poor condition housing (Adams, 2009). In spite of this, the majority of older people, understandably, wish to remain in their own homes. Currently 90% of older people live independently but as they age in place this raises questions about the ability of older people to maintain their homes, and pay for any necessary adaptations.

Equity release schemes fall into two categories: One is a home reversion scheme, whereby a house owner can sell all or part of a property at less than its market value in return for a tax-free lump sum, a regular income, or both, but stay on in their home as a rent-free tenant with a lifetime lease. The other is a lifetime mortgage. This is a loan secured against a

person's home. The loan can either be taken as a lump sum or in amounts drawn down over a set period or for life. Interest is charged on the loan, which may be paid or allowed to accumulate. When a person dies or moves out, the home is sold and the money is used to pay off the loan.

If older home owners are to have confidence in equity release schemes, an efficient and trusted equity release market is needed to provide the capital needed to stimulate the market in housing for older people, so that people with housing equity can be enabled to release it simply, without excessive charges or risk. The Government should work with the financial services industry to ensure such mechanisms are available, and to improve confidence in them. One proposal that has been put forward is for the setting up of a *UK Equity Bank* (Mayhew and Smith, 2014) to help low income pensioners utilise housing wealth for regular income. The premise being that an individual sells a portion of their home to the state in return for a guaranteed lifetime income. Upon death, the property would be sold, the debt to the state paid and any remaining value passed to the person's estate.

The social housing sector

Equity release products are, by their nature, mainly located in the private sector. In terms of the social sector, there has been little opportunity for housing associations to get involved in specifically housing older people. This is in contrast with other European countries (the Netherlands for example), which have direct, person-based long-term care and social health insurance. Not-for-profit housing agencies can enter this market because the individual has an assured flow of cash once they are independently assessed to be in need of a certain level of care.

Social housing is though, especially affected by the impact of the ageing population, with tenants having a high prevalence of health conditions and a low level of financial security. Wheatley (2015) reported on a survey of the housing association sector that extolled the need for the development of financing models incorporating social impact funding meaning that capital funding reforms are needed because there is a mismatch between the scale of investment needed and current funding, which is much greater than that for housing generally. The HAPPI plan (Home and Communities Agency, 2012) set out practical proposals in order to encourage and enable expansion of the sector. This includes higher levels of grant funding from government to reduce the cost of borrowing for social housing to encourage retirement housing developments. The case is put that retirement housing stimulates local housing markets and confers wider economic benefits to local communities. Subsidised social rental accommodation (a system of subsidised housing where those who are allocated a property will pay a below-market rent) is important for older households but, once allocated a property, tenants can usually stay for life irrespective of any changes in circumstance. This means that social renters have a severely reduced incentive and ability to move or to downsize their property as existing tenants are treated in the same way as new applicants if they move.

Local government planning

Despite growing demand for specialist housing and the considerable wealth held by some older people, there is a gap in the market. There were just 106,000 units of specialist housing for home ownership and 400,000 units for rent in the UK as a whole in 2010. Build rates are lower now than in the 1980s. In 2010, just 6,000 units for rent and 1,000 for

ownership were built, whereas in 1989, 17,500 units for rent were built as well as 13,000 for ownership (Hughes, 2012). The housing shortage is a general one, though, and substantial change is not going to happen without reform of the planning system.

This is an issue not just for older residents but for the whole population. The Government have made efforts to improve access to housing for younger people but, if the country had an adequate supply of suitably located, well-designed, supported housing for older people, this could result in an increased release onto the market of currently under-occupied family housing, expanding the supply available for younger generations. This could be the key to unlocking the wider housing market.

Central and local government, housing associations and house builders need urgently to plan how to ensure that the housing needs of the older population are better addressed and to give as much priority to promoting an adequate market and social housing for older people as is given to housing for younger people.

Local government should signal their intention to ensure better housing provision for older people by insisting that local planning agents both encourage the private market in housing provision for older people, and by making specific mention of older people's needs when drawing up their planning strategies. New housing for older people should be exempt from the planning restrictions that apply to mainstream housing. Central and local government should jointly review how the National Planning Policy Framework's suggestions might be clarified and tightened to do more to ensure sufficient housing provision for older people.

Conclusion and challenges

Unless there are measures initiated to influence the market, the required increase in the stock of age-appropriate housing in the face of rapid demographic change will not happen. The issues involved in bringing this about have been considered and reviewed in previous sections of this paper but the findings of this review lead to a number of challenges for initiating activity on the part of all the various stakeholders concerned with housing provision.

1. From the Government's standpoint, it cannot assume that the housing market will self-regulate to deal with the issue of ageing persons' housing needs and it must provide incentivisation for expenditure on housing improvements and adaptations as well as newly-built properties. As the population is ageing, the housing market is having trouble keeping up. At present three quarters of the UK's housing stock is not considered to be age-friendly. At its current rate of replacement of about three per cent per annum, the UK's housing stock needs a major update because it is not fit to support independent living over a life course. With appropriate stimulative targeted actions and investment, such expenditure could be a vital way to promote economic growth and job creation. A strategic approach to housing for the ageing society is needed to take account of the wider economic benefits.

Given the speed and scale of the demographic change, all new homes and renovation projects should be built to lifetime homes standards – it is a disappointment that the Government's Housing Standards Review in 2014 did not enshrine a standard similar to Lifetime Homes. These standards should include the opportunity for full use of technological innovation and, in the near future, standards/guidelines will have to be developed with scalable market of new products. Accessible environments and good transport make it easier for older people to stay active and healthy and able to spend in shops and services. It is important that future reviews of building standards consider the longer term social benefits of accessible design as well as the immediate upfront costs to developers.

In terms of its fiscal policy, in order to influence the market to encourage down-sizing, granting exemption from stamp duty for retirement homes would reduce the upfront cost required for a move and could also stimulate the market along the housing chain.

2. For the construction sector, given the pace at which the ageing population is beginning to have a societal and economic impact in the UK, it is surprising that the industry is still not viewing seniors housing as an area providing good market opportunities. While there are a small number of construction companies specialising in retirement housing developments, there has been a general reluctance amongst private commercial developers to become involved with such developments. From the developer's viewpoint, retirement properties can take longer to sell and do not generate volume sales.

The construction sector must aim to develop sustainable new business models and it needs to work with both the ICT and health sectors in this area of activity. A specific challenge for the construction sector is the development of new partnerships involving all relevant stakeholders (including financial institutions), to explore and agree upon new modes of providing large-scale renovation projects. By utilising the equity held by older householders to provide purpose-built accommodation there would be potential benefits from innovative alternative models of housing for older people such as cooperative housing provision, where older people join together to build or manage the building of their own housing development.

3. In both the social housing and private rental sectors, building more properties at lower rents is the challenge. For the current older age groups, home ownership is the most prevalent form of tenure but this may not necessarily be the case for following generations as they move into the older age category. Unless the housing market is able to respond to their home ownership needs they may have to continue to be home renters for the rest of their lives. It will become necessary to ensure improved tenure arrangements in the private rented sector if this form of tenure is to adapt to the ageing society.

4. Householders themselves. Older people need to be convinced that they should be looking at retirement housing as a lifestyle choice rather than being forced into such housing because of their future care needs. Also, when they are considering such a move, they may not fully appreciate their needs five to ten years into the future, when assessing the value of a home with smart home technology. Instead they may short-sightedly base their decisions on current needs. They need to be encouraged to invest in age-friendly technology based on sound evidence of the benefits.

5. All local authorities, with their ability to control public land, should have a housing strategy for older people with targets for retirement housing in the local plan. In the same way as Section 106 agreements (regarding planning obligations with developers) are used by planning authorities to ensure the provision of affordable housing in England and Wales to incentivise a greater supply, the subjection of retirement housing to such agreements should be permitted. Local authorities have an obligation to coordinate the delivery of support services that include housing and with over £400 million a year currently spent in England alone on adapting the homes of people who become disabled (the majority of it from public funds), there is a strong financial incentive to develop complementary economies from these activities.

6. Financial institutions. At present, the added value of an age-friendly aspect to renovation or new housing is not always obvious to private (or public) home owners. This makes it difficult for potential investors to secure the necessary funds and ensure that their investment is adequately reflected in an increased market value of the property. The implementation of consistent design standards for age-friendly homes (to Lifetime Homes standards) could be taken up by financial institutions to develop loan and financing

schemes for older home owners to be able to invest in age-friendly homes. Investment is needed to finance smart homes and this could be based on the setting up of innovation funds, encouraging social investment from pension funds or the mobilisation of alternative sources of finance, such as Real Estate Investment Trusts (REITs) specifically for seniors residential property.

All the relevant, aforementioned stakeholders in the age-friendly housing sector need to work together to ensure that age-friendly home environments can be provided in a cost-effective way and only through a multi-stakeholder exploration of innovative business models and partnerships can the high quality built environments that fit people's needs across their life course be developed.

References

- Adams S. (2009), "No Place like home? Housing Inequality in later life", In Cann, P. and Dean, M. (Eds) *Unequal Ageing: the untold story of exclusion in old age*, Policy Press, Bristol.
- Banks, J., Blundell, R. Oldfield, Z. and Smith, J.P. (2012), "Housing Mobility and Downsizing at Older Ages in Britain and the USA", *Economica*, Vol. 79 Issue 3, pp.1-26.
- Bloom, D.E., Canning, D. and Fink, G. (2010), "Implications of population ageing for economic growth", *Oxford Review of Economic Policy*, Vol. 26 (4), pp.183-212.
- Centre for Economics and Business Research (CEBR) (2014), *The Last Time Buyers Market: Downsizing preferences amongst older homeowners in England, Scotland and Wales*, CEBR, London.
- Cobbold, C. (1997), *Cost Benefit Analysis of Lifetime Homes*, Joseph Rowntree Foundation, York.
- Cocco, J.F. and Lopes, P. (2015), *Reverse Mortgage Design*, Working Paper, London Business School.
- DCLG (2012), *Assessing the cost of Lifetime Homes Standard*, Building Cost Information Service, Department for Communities and Local Government, London.
- DCLG (2014), *Housing standards: technical consultation*, available at: <https://www.gov.uk/government/consultations/housing-standards-review-technical-consultation>, (accessed 20 March 2016).
- DCLG (2015a), *2012-based Household Projections – England: Housing Types (Stage 2) and National Variants*, Department for Communities and Local Government, London.
- DCLG (2015b), *English Housing Survey 2013 to 2014: Household Report*, Department for Communities and Local Government, London.
- DCLG (2015c), *The Housing Standards Review*, available at: <https://www.gov.uk/government/consultations/housing-standards-review-technical-consultation>, (accessed 8 March 2016).
- De Nardi, E.F. and Jones, J.B. (2010), "Why Do the Elderly Save?", *Journal of Political Economy*, Vol.118 (1), pp.39-75.
- Dilnot Commission (2011), *Funding of Care and Support*, Department of Health, London.
- Eatock, D. (2015), *The Silver Economy: Opportunities from Ageing*, European Parliamentary Research Service, Brussels.
- Engelhardt, G.V. (1996), "House prices and home owner saving behaviour", *Regional Science and Urban Economics* Vol.26, pp.305-324.

European Commission (2015), *The 2015 Ageing Report: Economic and budgetary projections for the 28 EU Member States (2013-2060)*, European Economy3|2015, Publications Office of the European Union, Luxembourg.

Home and Communities Agency (2009) HAPPI - *Housing our Ageing Population: Panel for Innovation, Final Report*, Home and Communities Agency, London.

Home and Communities Agency (2012) HAPPI - *Housing our Ageing Population: Plan for Implementation*, Home and Communities Agency, London.

Housing LIN (2012), *Housing in later life: Planning ahead for specialist housing for older people*, Housing Learning and Improvement Network, London.

Gov.UK (2016), *Affordable home ownership schemes*, available at: <https://www.gov.uk/affordable-home-ownership-schemes/overview>, (accessed 20 March 2016).

Hughes, M. (2012), *A better fit? Creating housing choices for an ageing population*, McCarthy and Stone / Shelter, London.

Le, Q., Nguyen, H.B. and Barnett, T. (2012), Smart Homes for Older People: Positive Aging in a Digital World, *Future Internet* 4, pp. 607-617.

Mayhew, L. and Smith, D. (2014), *The UK Equity Bank: Towards income security in old age*, ILC-UK, London.

Meiners, N. (2014), "Economics of Ageing: Research Area and Perspectives", *Indian Journal of Gerontology*, Vol.28 No. 1, pp.139-168.

O'Mahony, L.F. (2013), *Paying for care: what matters is how you get there*, available at: <http://wealthgap.wp.st-andrews.ac.uk/paying-for-care/>, (accessed 20 March 2016).

ONS (2015a), *National Population Projections 2014*, available at: <http://www.ons.gov.uk/ons/rel/npp/national-population-projections/2014-based-projections/rft>, (accessed 6 March 2016).

ONS (2015b), *Family Spending Report*, available at: www.ons.gov.uk/ons/rel/family-spending/family-spending/, (accessed 6 March 2016).

ONS (2015c), *House Price Index*, available at: <http://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/housepriceindex/2015-09-15>, (accessed 6 March 2016).

Roys, M. (2012), *Assessing the health benefits of Lifetime Homes*, DCLG, London.

Sheiner, L. and Weil, D.N. (1991), *The housing wealth of the aged*, Mimeo, Brown University, USA.

Sinai, T. and Souleles, N. (2005), Owner-occupied Housing as a Hedge against Rent Risk, *Quarterly Journal of Economics*, Vol. 120 (2), pp. 763-789.

The Smith Institute (2012), *Making the Most of Equity Release: Perspectives from Key Players*, The Smith Institute, London.

United Nations (2013), *World Population Ageing 2013*, Department of Economic and Social Affairs, United Nations, New York.

Wheatley, M. (2015), *Are Housing Associations ready for an ageing population?*, The Smith Institute, London.

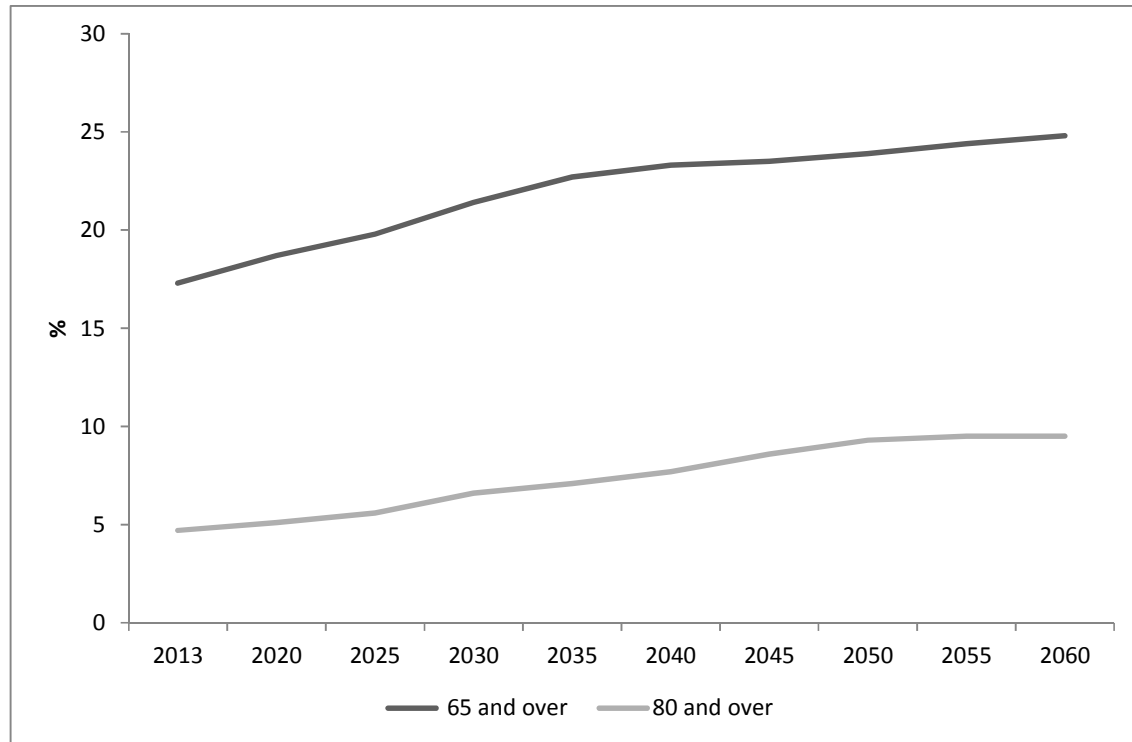


Figure 1 The elderly as a percentage of the UK population

Source: European Commission (2015)

Table 1 Household projections by age of head of household (thousands)

Age group (years)	2012	2037	Total change 2012-37 (%)
Under 25	801	867	8
25-34	3 111	2 838	-9
35-44	4 135	4 348	5
45-54	4 413	4 979	13
55-64	3 658	4 285	17
65-74	3 116	4 309	38
75-84	2 184	3 611	65
85+	888	2 313	161
Total	22 305	27 548	24

(Source: DCLG, 2015a)

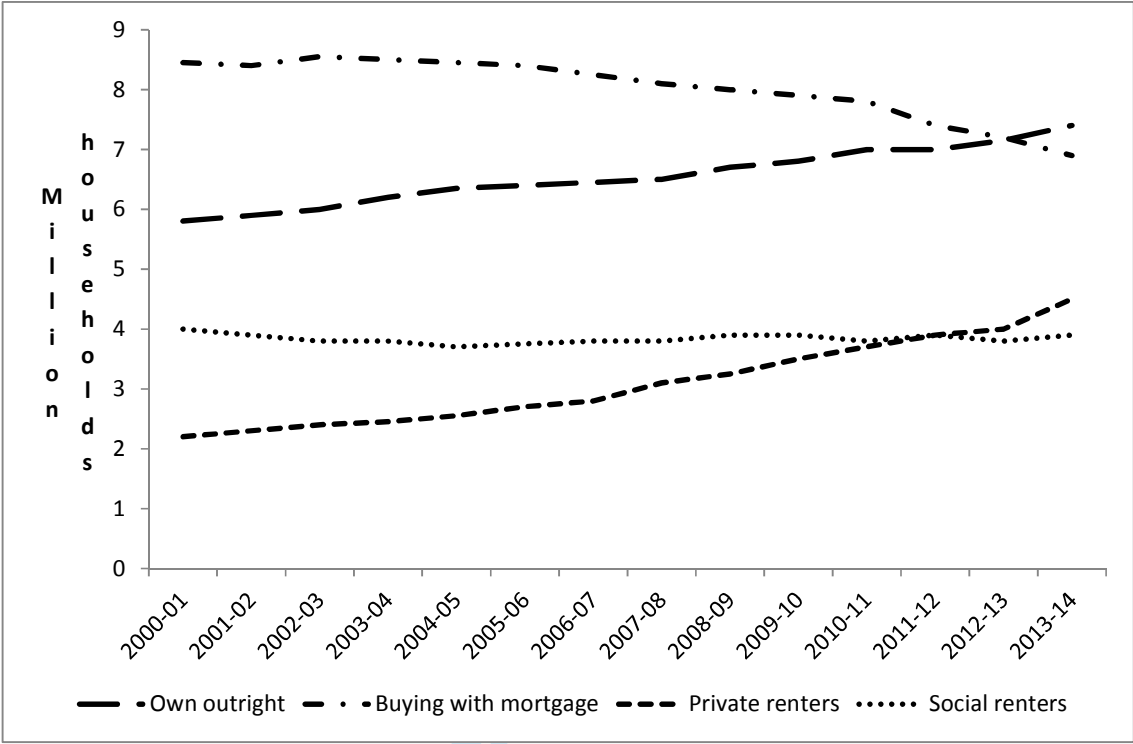


Figure 2 Trends in Tenure
Source: English Housing Survey (DCLGb, 2015)

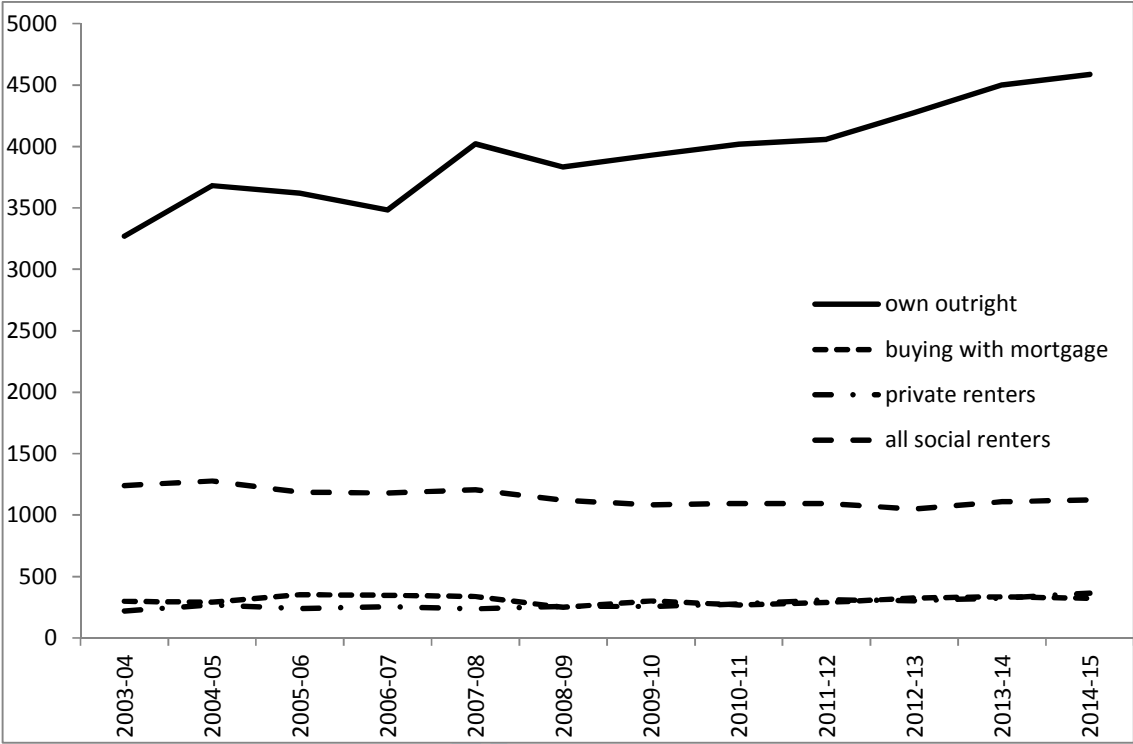


Figure 3 Tenure (000 households) of age group over 64 years of age

(Source: English Housing Survey, 2015)

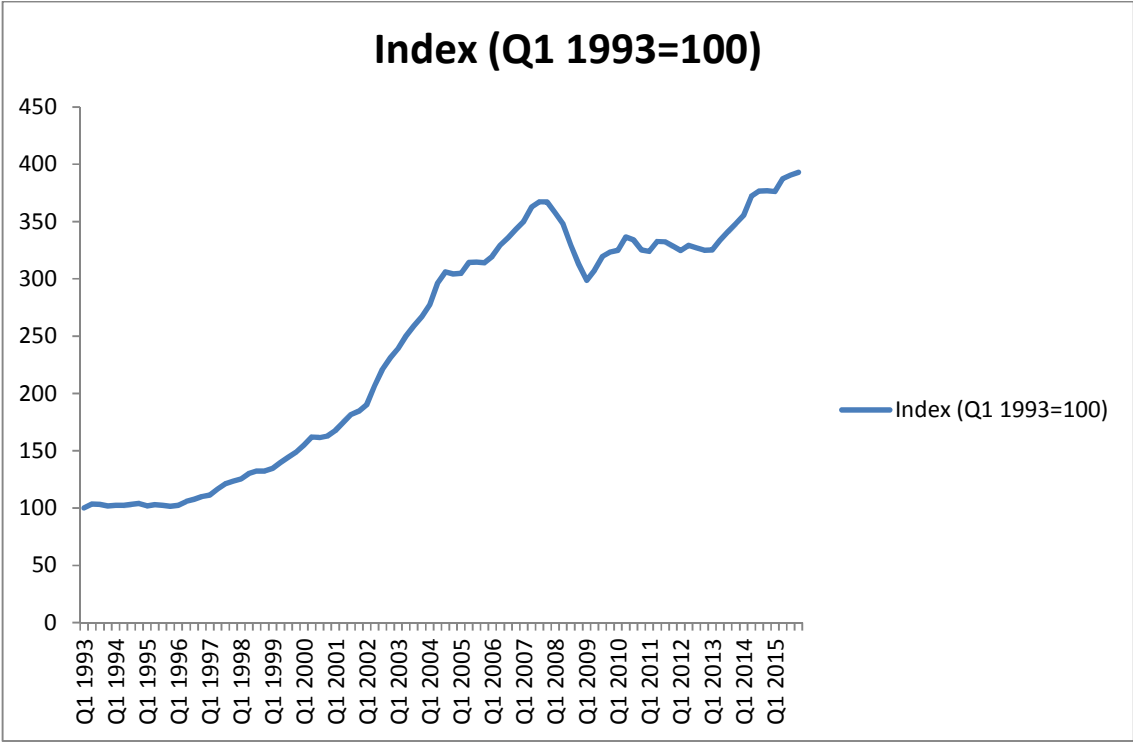


Figure 4 House Price Index 1993-2015

Source: ONS (2015c)